

January 1, 2013

Actuarial Valuation Report

**Swampscott
Retirement System**

December 4, 2013

Lawrence B. Stone
President



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December 4, 2013

Swampscott Retirement Board
25 Railroad Avenue, Suite 4
Swampscott, MA 01907

Dear Swampscott Retirement Board:

Stone Consulting, Inc. has performed a January 1, 2013 actuarial valuation of the Swampscott Retirement System. This valuation and report was prepared using generally accepted actuarial principles and practices and meets the parameters set by the Governmental Accounting Standards Board Statement (GASB) No. 25. To the best of our knowledge, this report is complete and accurate, and the assumptions used represent our best estimate of anticipated experience of the system.

As part of performing the valuation, Stone Consulting, Inc. was furnished member data by the Swampscott Retirement System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary. In addition, the administrative staff furnished financial statements that were not audited by the actuary or by the plan's auditors.

The funding objective of the plan is to fully fund the system while attempting to maintain a stable contribution amount for the upcoming fiscal year that is consistent with prior funding schedules or if employer finances allow it, to increase the contribution amount. This funding objective is being met.

We anticipate over time the contribution level to decrease as a percentage of payroll. The contribution rate is determined by adding the normal cost plus an amortization of the unfunded actuarial accrued liability. The normal cost is expected to remain at a level percentage of payroll. The number of years of the amortization and the rate of increase of the amortization is adjusted to maintain a stable contribution level for the upcoming fiscal year or, if employer finances allow it, to increase the contribution. The length of the funding schedule contained in this actuarial valuation report is seventeen years (fully funded by 2030), and the amortization increase is 3.92807%. The maximum length of the amortization is until Fiscal 2030. These limits are contained in Chapter 32 of the Massachusetts General Laws and related statutes.

The contribution amount for Fiscal Year 2015 is \$4,381,537 which is \$226,888 more than the anticipated contribution amount from the prior funding schedule. PERAC and GASB guidelines indicate that actuarial valuations should be conducted at least every other year. The Swampscott Retirement Board conducted their previous actuarial valuation effective January 1, 2011.

We are pleased to present the results of this valuation. If the Retirement Board has any questions on the content of this report, we would be glad to respond. Please note that this report is meant to be used in its entirety. Use of excerpts of this report may result in inaccurate or misleading understanding of the results.

The undersigned is a consultant for Stone Consulting, Inc. and a member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein.

Respectfully submitted,
STONE CONSULTING, INC.
Actuaries for the Plan

Lawrence B. Stone
Member, American Academy of Actuaries

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Introduction

This report presents the results of the actuarial valuation of the Swampscott Retirement System. The valuation was performed at the request of the Retirement Board as of January 1, 2013 for the purpose of determining the contribution requirements for Fiscal Year 2014 and beyond. The contribution requirements are based on:

- The financial condition of the system as of December 31, 2012
- The benefit provisions of M.G.L. Chapter 32 and related statutes;
- The demographics of members in the system (i.e., active and inactive participants, retirees and beneficiaries as of January 1, 2013);
- Economic assumptions regarding salary increases and investment earnings; and
- Other actuarial assumptions (e.g., withdrawals, retirement, death, etc.)

January 1, 2013 Valuation Summary

	January 1, 2013	January 1, 2011	Change
Contribution Fiscal 2014	\$4,381,537	\$4,154,649	\$226,888
Funding Schedule Length (as of FY 2014)	17 years	17 years	0 years
Amortization Increase	3.92807%	3.92807%	0.00%
Funding Ratio	44%	46%	-2%
Interest Rate Assumption	8.00%	8.00%	0.00%
Salary Increase Rate Assumption	Select & 3.75% Ultimate plus steps: (see below)	Select & Ultimate Grp 1&2: 7% - 4% Grp 4: 8% - 4.25% Over 5 years	-

SALARY INCREASES (during select period)

Yrs. of Service	1	2	3	4	5
Groups 1 & 2	4.25%	3.75%	1.25%	1.25%	3.75%
Police	4.25%	9.25%	4.25%	9.25%	-
Fire	5.25%	5.25%	3.25%	-	-

- The Fiscal Year 2014 contribution is \$226,888 more than the planned 2014 contribution. Stone Consulting, with agreement from the Retirement Board, values assets using a five-year asset smoothing method. In this approach, asset gains and losses are recognized over a five-year period. The purpose of this approach is to avoid wide swings in asset value from one year to the next.
- The System, experienced a 4.50% annual return over the two year period on the market value of assets versus our assumption of an 8.00% return which resulted in a \$1.7 million net actuarial loss. The System's asset portfolio, effective December 31, 2012 is approximately 80% equities and 20% fixed income and short-term investments. The assets are mainly invested in Pension Reserves Investment Trust (PRIT). The interest rate assumption was maintained at 8.00% to reflect anticipated market performance.
- We have modified the select and ultimate salary increase assumption to reflect an ultimate rate of 3.75% plus steps as previously shown. The prior valuation used a select and ultimate table with different ultimate rates depending on group.

This change decreased the actuarial accrued liability by \$487,000. Total compensation changed by 2.1% over the prior valuation; however average annual compensation (compensation divided by number of active members) changed by -1.8%. This assumption is based on expected future experience.

- The funding level of the Swampscott Retirement System is 44% compared to 46% for the January 1, 2011 actuarial valuation. The funding level is estimated to be below the median of Massachusetts' Contributory Retirement Systems.

The schedule length is seventeen (17) years (which is the same as the remainder of the prior schedule). The maximum period permitted under Section 22D of Chapter 32 of the Massachusetts General Laws is 17 years (2030) or 27 years (2040) under Section 22F. The amortization increase is 3.92807%. The maximum amortization permitted under Chapter 32, Section 22D is 4.5%.

- Non-economic assumptions were changed from the January 1, 2011 actuarial valuation. The mortality assumption is based upon the RP2000 Table projected 18 years with Scale AA. The previous assumption used an 11 year projection with Scale AA. The net effect of this change increased the actuarial accrued liability by \$1.0 million.
- The COLA Base was increased from \$12,000 to \$13,000. This increased the actuarial accrued liability by \$367,000.

January 1, 2013 Actuarial Valuation Results

	January 1, 2013	January 1, 2011	Percentage Change
Funding			
Contribution for Fiscal 2014	\$4,381,537		
Contribution for Fiscal 2014 based on current schedule		\$4,154,649	5%
Members			
▪ Actives			
a. Number	235	226	4.0%
b. Annual Compensation	\$11,186,504	\$10,953,584	2.1%
c. Average Annual Compensation	\$47,602	\$48,467	-1.8%
d. Average Attained Age	49.6	49.0	1.2%
e. Average Past Service	13.5	13.0	3.8%
▪ Retired, Disabled and Beneficiaries			
a. Number	204	213	-4.2%
b. Total Benefits*	\$4,685,201	4,485,325	4.5%
c. Average Benefits*	\$ 22,967	\$21,058	9.1%
d. Average Age	74.0	73.9	0.1%
▪ Inactives			
a. Number	186	243	-23.5%
Normal Cost			
a. Total Normal Cost	\$1,435,612	\$1,520,153	-5.6%
b. Less Expected Members' Contributions	<u>1,026,763</u>	<u>995,828</u>	3.1%
c. Normal Cost to be funded by the Municipality	\$408,849	\$524,325	-22.0%
d. Eighteen month adjustment	7,595	43,846	-82.7%
e. Administrative Expense Assumption	<u>173,823</u>	<u>192,348</u>	-9.6%
f. Adjusted Normal Cost and Expense	\$590,267	\$760,519	-22.4%

*Excluding State reimbursed COLA

	January 1, 2013	January 1, 2011	Percentage Change
Actuarial Accrued Liability as of January 1, 2013			
a. Active Members	\$34,216,636	\$30,209,206	13.3%
b. Inactive Members	666,192	731,456	-8.9%
c. Retired Members and Beneficiaries	<u>43,194,264</u>	<u>40,881,516</u>	5.7%
d. Total	\$78,077,092	\$71,822,178	8.7%
Unfunded Actuarial Accrued Liability			
a. Actuarial Accrued Liability	\$78,077,092	\$71,822,178	8.7%
b. Less Actuarial Value of Assets	<u>34,140,831</u>	<u>33,177,769</u>	2.9%
c. Unfunded Actuarial Accrued Liability	\$43,936,261	\$38,644,409	13.7%
d. Eighteen month adjustment	<u>\$1,936,085</u>	<u>\$1,765,374</u>	
e. Adjusted Unfunded Actuarial Accrued Liability	\$45,872,346	\$40,409,783	

- The data was supplied by the Swampscott Retirement Board. The data was checked under broad parameters for reasonableness. With the assistance of the staff of the Swampscott Retirement Board, we were able to develop a database sufficient for valuation purposes.
- Payroll changed by 2.1% over the course of the past year. Average annual compensation changed by -1.8% over the same time period.
- The salary increase assumption includes general wage adjustments, step increases, and promotional increases.

History of Active Participants

Valuation Year	Number	Average Age	Average Past Service	Average Annual Compensation
2013	235	49.6	13.5	\$47,602
2011	226	49.0	13.0	\$48,467
2010	241	48.6	12.1	\$44,595
2008	252	46.0	11.4	\$41,115
2006	282	45.0	9.6	\$35,500

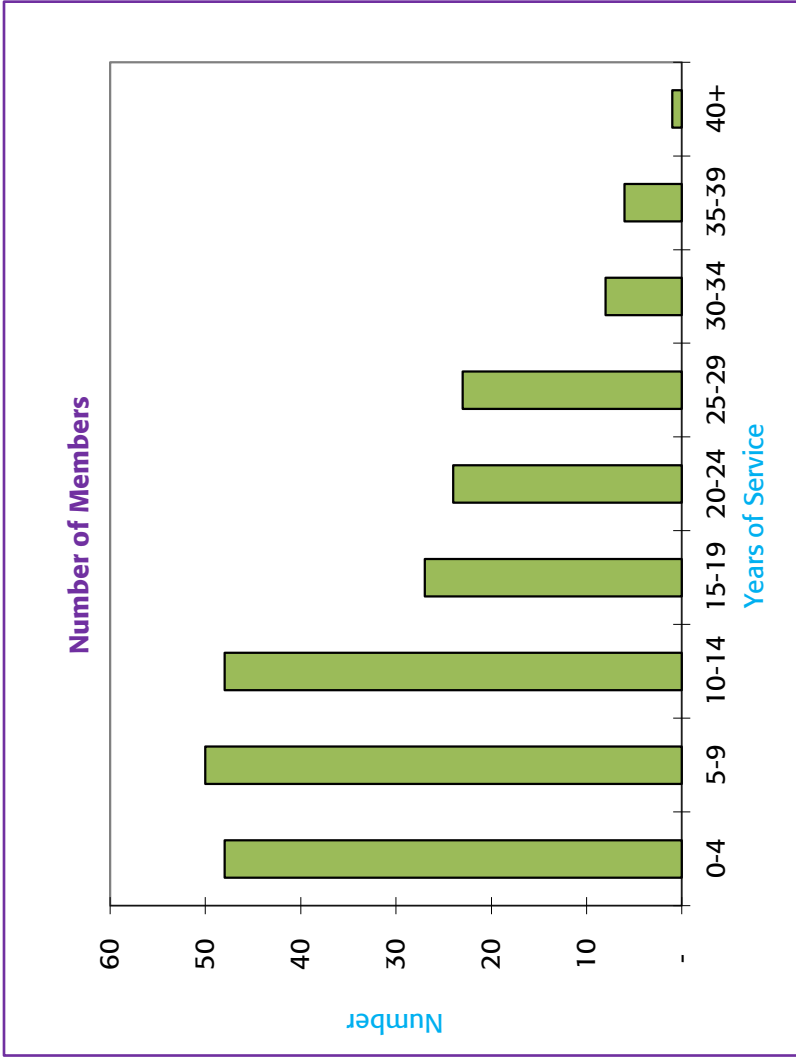
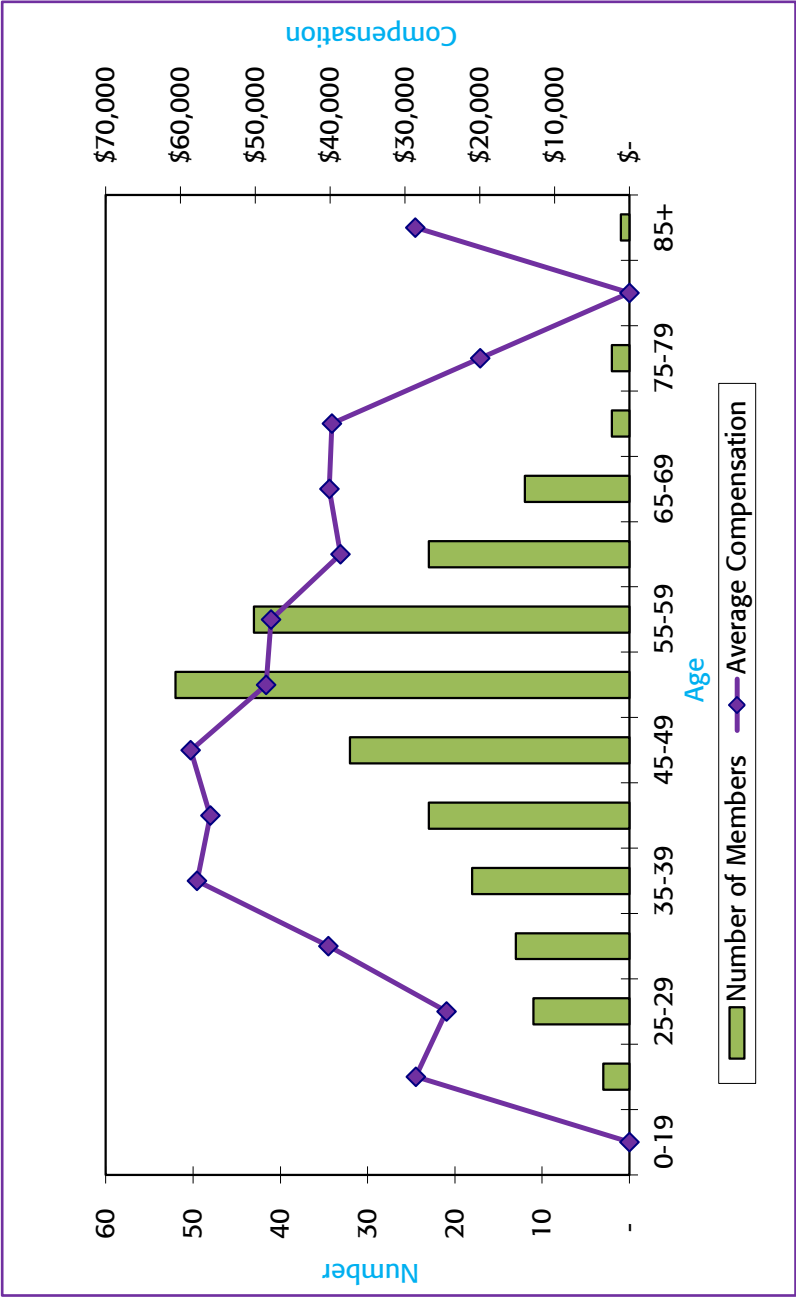
- Employee age has increased by 4.6 years and service has increased by 3.9 years over the course of the past seven years. This is consistent with the trend in the Commonwealth's public sector towards an aging of the employee population. Average annual compensation has grown by 34.1% (4.3% annually) over the same time period.

The charts on the following pages summarize demographic information regarding active and retiree members.

Distribution of Plan Members as of January 1, 2013

Active Members

AGE	0-4 Years	5-9 Years	10-14 Years	15-19 Years	20-24 Years	25-29 Years	30-34 Years	35-39 Years	40 + Years	Total	Total Compensation	Average Compensation
0-19	-	-	-	-	-	-	-	-	-	-	\$ -	-
20-24	3	-	-	-	-	-	-	-	-	3	85,655	28,552
25-29	10	1	-	-	-	-	-	-	-	11	268,923	24,448
30-34	6	5	2	-	-	-	-	-	-	13	523,153	40,243
35-39	5	4	8	1	-	-	-	-	-	18	1,040,564	57,809
40-44	4	5	4	8	2	-	-	-	-	23	1,288,285	56,012
45-49	7	3	9	3	6	4	-	-	-	32	1,876,927	58,654
50-54	6	13	13	3	8	7	2	-	-	52	2,525,507	48,567
55-59	4	10	7	7	2	5	4	-	-	43	2,059,884	47,904
60-64	1	6	5	2	3	5	-	1	-	23	888,330	38,623
65-69	1	2	-	3	2	2	1	1	-	12	481,216	40,101
70-74	1	-	-	-	-	-	-	-	1	2	79,538	39,769
75-79	-	1	-	-	1	-	-	-	-	2	39,896	19,948
80-84	-	-	-	-	-	-	-	-	-	-	-	-
85+	-	-	-	-	-	-	1	-	-	1	28,625	28,625
TOTAL	48	50	48	27	24	23	8	6	1	235	\$ 11,186,504	\$ 47,602



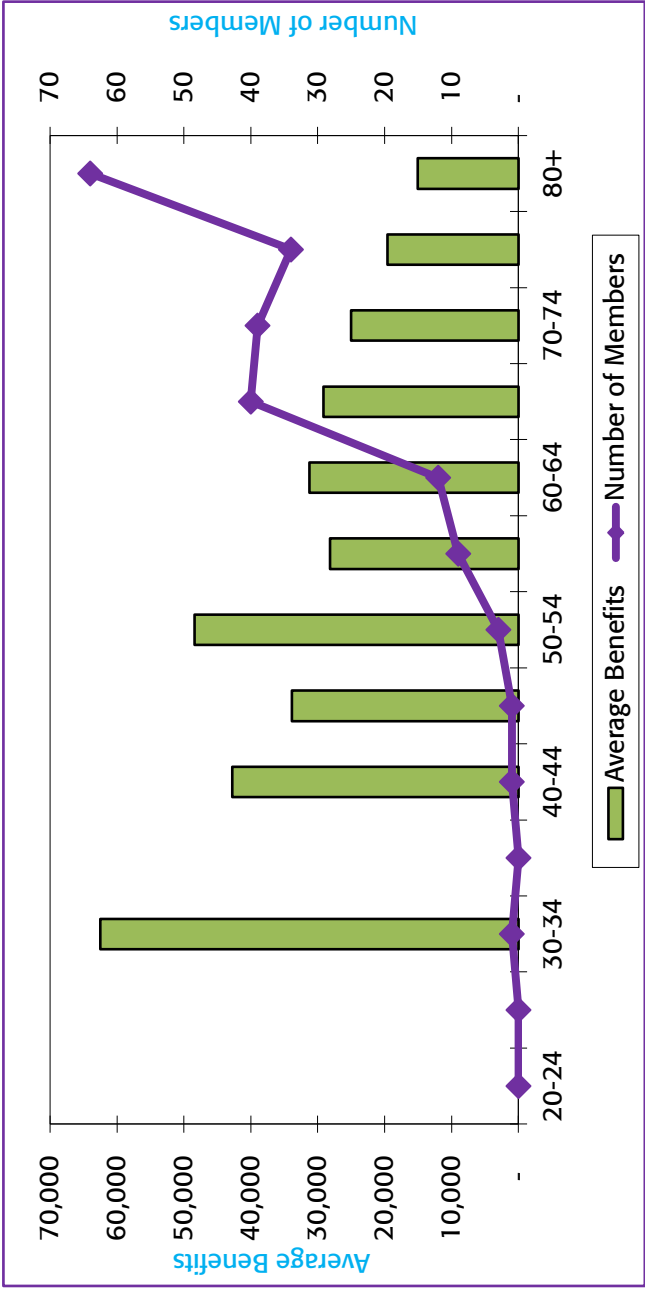
Distribution of Plan Members as of January 1, 2013

Retired Members

Retired Members and Beneficiaries			
Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	-	-	-
35-39	-	-	-
40-44	-	-	-
45-49	-	-	-
50-54	1	76,559	76,559
55-59	7	28,517	199,622
60-64	10	29,755	297,549
65-69	34	30,434	1,034,773
70-74	36	25,481	917,310
75-79	30	17,741	532,228
80+	57	14,194	809,042
TOTAL	175	\$ 22,098	\$ 3,867,083

Disabled Members			
Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	1	62,519	62,519
35-39	-	-	-
40-44	1	42,773	42,773
45-49	1	33,873	33,873
50-54	2	34,283	68,565
55-59	2	26,831	53,661
60-64	2	38,620	77,240
65-69	6	21,917	131,499
70-74	3	19,842	59,526
75-79	4	33,178	132,712
80+	7	22,250	155,750
TOTAL	29	\$ 28,211	\$ 818,118

Total			
Age	Number	Average Benefit	Total Benefit
20-24	-	-	-
25-29	-	-	-
30-34	1	62,519	62,519
35-39	-	-	-
40-44	1	42,773	42,773
45-49	1	33,873	33,873
50-54	3	48,375	145,124
55-59	9	28,143	253,283
60-64	12	31,232	374,790
65-69	40	29,157	1,166,272
70-74	39	25,047	976,836
75-79	34	19,557	664,940
80+	64	15,075	964,791
TOTAL	204	\$ 22,967	\$ 4,685,201



Benefits shown are net of State reimbursed COLA.

Valuation Methodology

Stone Consulting, Inc. used the Entry Age Normal actuarial funding method in this actuarial valuation. The use of the Entry Age Normal actuarial funding method is consistent with the requirements of Chapter 32 of the Massachusetts General Laws.

NORMAL COST

Valuation Date	January 1, 2013	% of Payroll*
Gross Normal Cost (GNC)	\$1,435,612	12.8%
Employees Contribution	<u>\$1,026,763</u>	<u>9.2%</u>
Net Normal Cost (NNC)	\$408,849	3.7%
Adjusted to Beginning of Fiscal Year 2014	\$7,595	
Administrative Expense	<u>\$173,823</u>	1.6%
Adjusted Net Normal Cost With Admin. Expense	\$590,267	

*Payroll paid in 2012 for employees as of January 1, 2013 is \$11,186,504. Payroll for new hires in 2012 was annualized.

- The gross normal cost (GNC) is the “price” of benefits accruing in the current year if the assumptions underlying the normal cost were realized.
- An individual normal cost represents that part of the cost of a member’s future benefits that are assigned to the current year as if the costs are to remain level as a percentage of the member’s pay. Benefits payable under all circumstances (i.e., retirement, death, disability, and withdrawals) are included in this calculation.
- Anticipated employee contributions to be made during the year are subtracted from the GNC to determine employer normal cost, or net normal cost (NNC).
- Administrative expenses added to the NNC. The administrative expense does not include investment manager and custodial fees. These fees are considered part of the interest rate assumption that is net of fees.

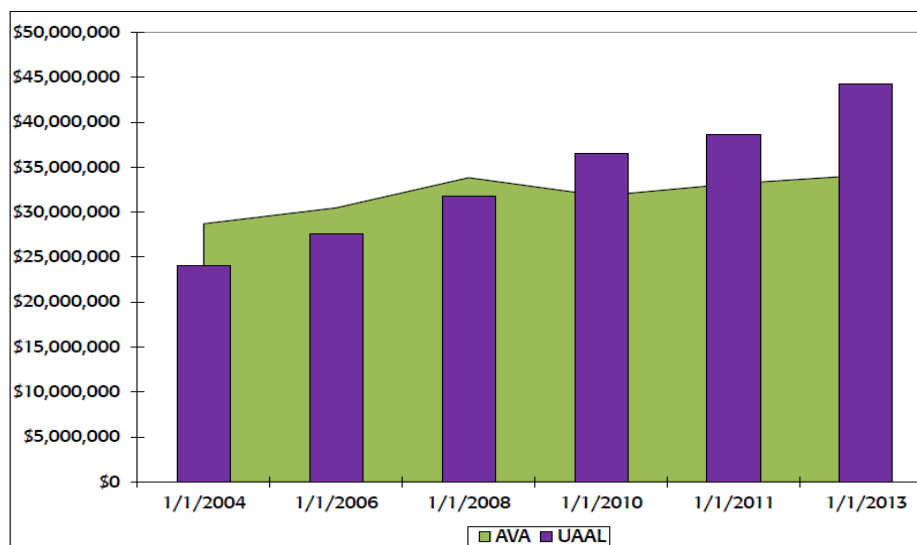
Actuarial Accrued Liability and Funded Status

	January 1, 2013	Percentage Change
Active Actuarial Accrued Liability		
Superannuation \$31,063,885		
Death 676,145		
Disability 2,148,486		
Withdrawal 328,120		
Total	\$34,216,636	13.3%
Retiree, Inactive, Survivor and Beneficiary Actuarial Accrued Liability		
Retirees and Beneficiaries \$35,092,598		
Disabled 8,101,666		
Inactive 666,192		
Total	<u>43,860,456</u>	5.4%
Total Actuarial Accrued Liability (AAL)	\$78,077,092	8.7%
Actuarial Value of Assets (AVA)	<u>34,140,831</u>	2.9%
Unfunded Actuarial Accrued Liability (UAAL)	\$43,936,261	13.7%
Funded Ratio (AVA / AAL)		
2013 (8.00% interest rate):	44%	
2011 (8.00% interest rate):	46%	

- Actuarial Accrued Liability (AAL) is the “price” of benefits attributable to benefits earned in past years, or in other words, represents today’s value of all benefits earned by active and inactive members.
- The total AAL is \$78,077,092. This along with an actuarial value of assets of \$34,140,831 produces a funded status of 44%. This compares to a funded status of 46% for the 2011 valuation.

The chart on the following page is a history of the unfunded actuarial accrued liability (UAAL) and the valuation assets (AVA) over the course of the past six actuarial valuations.

History of Actuarial Valuation of Assets (AVA) and Unfunded Actuarial Accrued Liability(UAAL)



Development of Funding Schedule

Net Employer Normal Cost for Fiscal 2014	\$ 590,267
Net 3(8)(c) payments	83,565
Amortization	<u>3,707,705</u>
Total Appropriation required for Fiscal 2014	\$4,381,537

- The funding schedule is composed of the normal cost, the net 3(8)(c) payments and the amortization of the actuarial accrued unfunded liability and is adjusted by the administrative expense assumption. The contribution is assumed to be made July 1.
- The 3(8)(c) payments is the net of payments made to or from different Chapter 32 Systems to reflect benefits paid due to service either with Swampscott or other Chapter 32 Systems.
- The contribution amount for Fiscal 2014 is \$4,381,537. The funding schedule is presented on page 11. The schedule's length is seventeen (17) years (for the fresh start base) which is the same as the January 1, 2011 valuation schedule's length. The maximum funding schedule length allowed by Section 22D of Chapter 32 of the Massachusetts General Laws is seventeen years to Fiscal 2030.
- In developing the funding schedule, we used a fresh start approach in which the unfunded actuarial accrued liability (UAAL), other than the UAAL due to past early retirement incentives, is reamortized instead of maintaining the existing amortization amount and separately amortizing the actuarial gain or loss. The use of a fresh-start approach can result in a funding schedule in which the changes in contribution amounts from year to year are more consistent. The amortization percentage stayed the same as the prior valuation, 3.92807%. The maximum amortization increase allowed under Section 22D of Chapter 32 is 4.50%.

SWAMPSCOTT RETIREMENT SYSTEM

FUNDING SCHEDULE

Fiscal Year	Normal Cost	Unfunded Liability	Funding Amortization of UAL	Net 3(8)(c) Payments	Schedule Contribution
2014	590,267	45,872,346	3,707,705	83,565	4,381,537
2015	612,992	45,537,812	3,846,606	83,565	4,543,164
2016	636,592	45,026,502	3,990,963	83,565	4,711,121
2017	661,101	44,318,382	4,140,991	83,565	4,885,657
2018	686,554	43,391,583	4,296,911	83,565	5,067,030
2019	712,986	42,222,245	4,458,957	83,565	5,255,508
2020	740,436	40,784,351	4,496,106	83,565	5,320,107
2021	768,943	39,191,304	4,630,799	83,565	5,483,307
2022	798,547	37,325,345	4,812,700	83,565	5,694,812
2023	829,291	35,113,656	5,001,747	83,565	5,914,603
2024	861,219	32,520,863	5,198,219	83,565	6,143,003
2025	894,376	29,508,455	5,402,408	83,565	6,380,349
2026	928,809	26,034,531	5,614,619	83,565	6,626,993
2027	964,568	22,053,505	5,835,165	83,565	6,883,298
2028	1,001,704	17,515,807	6,064,374	83,565	7,149,644
2029	1,040,270	12,367,548	6,302,587	83,565	7,426,422
2030	1,080,320	6,550,157	6,550,157	83,565	7,714,042
2031	1,121,913	0	-	83,565	1,205,478

Amortization of Unfunded Liability as of July 1, 2013

Year	Type	Original Amort. Amount	Percentage Increasing	Original # of Years	Current Amort. Amount	Years Remaining
2002	ERI	131,261	0.00%	18	131,261	6
2003	ERI	40,333	0.00%	18	40,333	7
2014	Fresh Start	3,536,111	3.92807%	17	3,536,111	17

Notes on Amortization of Unfunded Liability

Year is the year the amortization base was established.

Type is the reason for the creation of the base. Examples are Gain/(Loss) or Fresh Start.

Original Amortization Amount is the annual amortization amount when the base was established.

Percentage Increasing is the percentage that the Original Amortization Amount increases per year.

Original # of Years is the number of years over which the base is being amortized.

Current Amortization Amount is the amortization payment amount for this year.

Years Remaining is the number of years left to amortize the base.

Assumptions and Methodology Summary

The principal actuarial assumptions used in this valuation are the same as the assumptions used in the previous valuation, except where noted, and are summarized in the following table:

Valuation Date	January 1, 2013 Valuation																													
Interest Rate	8.00%																													
Salary Increase	3.75% Ultimate rate plus following step increases:																													
	<table><tr><th>Yrs. of Service</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th></tr><tr><td>Grps 1 & 2</td><td>4.25%</td><td>3.75%</td><td>1.25%</td><td>1.25%</td><td>3.75%</td></tr><tr><td>Police</td><td>4.25%</td><td>9.25%</td><td>4.25%</td><td>9.25%</td><td>-</td></tr><tr><td>Fire</td><td>5.25%</td><td>5.25%</td><td>3.25%</td><td>-</td><td>-</td></tr></table>						Yrs. of Service	1	2	3	4	5	Grps 1 & 2	4.25%	3.75%	1.25%	1.25%	3.75%	Police	4.25%	9.25%	4.25%	9.25%	-	Fire	5.25%	5.25%	3.25%	-	-
Yrs. of Service	1	2	3	4	5																									
Grps 1 & 2	4.25%	3.75%	1.25%	1.25%	3.75%																									
Police	4.25%	9.25%	4.25%	9.25%	-																									
Fire	5.25%	5.25%	3.25%	-	-																									
COLA	3% of \$13,000 (<i>\$12,000 prior valuation</i>)																													
COLA Frequency	Granted every year																													
Mortality	RP-2000 table (sex distinct, healthy employees for actives and healthy annuitants for retirees) projected 18 years with scale AA. For members retired under an Accidental Disability (job-related), 40% of deaths are assumed to be from the same cause as the disability. Disabled mortality is the healthy retiree table ages set forward 2 years. (<i>Prior valuation used RP2000 projected 11 years with scale AA.</i>)																													
Overall Disability	<table><tr><td></td><td>Ordinary</td><td>Accidental</td></tr><tr><td>Groups 1 and 2</td><td>45%</td><td>55%</td></tr><tr><td>Group 4</td><td>10%</td><td>90%</td></tr></table>							Ordinary	Accidental	Groups 1 and 2	45%	55%	Group 4	10%	90%															
	Ordinary	Accidental																												
Groups 1 and 2	45%	55%																												
Group 4	10%	90%																												
Retirement Rates	Groups 1 and 2: Ages 55 – 70, Group 4: Ages 50 – 65																													
Administrative Expense	\$173,823 budget estimated for FY 2014 provided by Swampscott Retirement Board.																													

Assets

a.	Cash	\$	395,953.60
b.	Short Term Investments		99,135.13
c.	Equities		1,537,527.75
d.	Pooled Domestic Equity Funds		3,154,614.46
e.	Pooled Alternative Investments		746,600.96
f.	Pooled Real Estate Funds		1,199,080.52
g.	PRIT Fund		<u>26,844,003.50</u>
h.	Sub-Total:	\$	33,976,915.92
i.	Interest Due and Accrued	\$.00
j.	Accounts Receivable		50,457.34
k.	Accounts Payable		<u>(14,017.00)</u>
l.	Sub-Total:	\$	36,440.34
m.	Market Value of Assets [(h) + (l)]	\$	34,013,356.26

- We were furnished with the System's annual report by the Board. The market value of assets as of December 31, 2012 (adjusted for payables and receivables) is \$34,013,356.26.
- The asset allocation is approximately 20% cash, receivables, payables and fixed income and 80% equities, alternative investments, and real estate.
- Historically, 10 to 11% has been the expected long-term rate of return for equities, and 6% to 7% has been the expected long-term rate of return for fixed income securities. Many economists and investment professionals are projecting lower returns of 6.25% to 9.00% for equities and 3.65 to 6.00% for fixed income securities. In light of these projections, as well as historical investment returns, the 8.00% interest rate assumption is within the reasonable assumption range. We encourage close monitoring for changes in investment performance against expectations.

Calculation of Valuation Assets

1. Market value of assets including receivable/payable as of 01/01/2013 \$34,013,356

2. Phase-in of asset gains and losses

	Plan Year (1)	Original Amount (2)	Percent Unrecognized (3)	Amount Unrecognized (2) x (3)
a.	2012	\$1,621,329	80%	\$1,297,063
b.	2011	(\$3,292,249)	60%	(\$1,975,349)
c.	2010	\$755,078	40%	\$302,031
d.	2009	\$1,243,899	20%	\$248,780
e.	Total			(\$127,475)

3. Valuation assets without corridor as of 01/01/2013 \$34,140,831
(1. - 2.d.)

4. Corridor Check

a. 90% of Market Value \$30,612,021
b. 110% of Market Value \$37,414,692

5. Valuation assets with corridor as of 01/01/2013 \$34,140,831
3. within Corridor

6. Calculation of return on valuation assets

a. Valuation assets as of 01/01/2011 33,177,769
b. ER contribs + EE contribs - Ben Pymts - Expenses 529,547
c. Actual return on valuation assets \$433,516
5. - (6.a. + 6.b.)
d. Weighted value of valuation assets \$33,168,438
e. Return on valuation assets 1.3%
6.c. / 6.d.
f. Annualized return on valuation assets 0.7%

Disclosure Information Under GASB Statement 25

SCHEDULES OF FUNDING PROGRESS
(Dollars In Thousands)

Actuarial Valuation Date	Actuarial Value of Assets A	Actuarial Accrued Liability B	Unfunded AAL (UAAL) B-A	Funded Ratio A/B	Covered Payroll C	UAAL as a % of Covered Payroll (B-A)/C
1/1/2013	\$34,141	\$78,077	\$43,936	44%	\$11,187	393%
1/1/2011	\$33,178	\$71,822	\$38,644	46%	\$10,954	353%
1/1/2010	\$31,828	\$68,326	\$36,499	47%	\$10,747	340%
1/1/2008	\$33,846	\$65,637	\$31,792	52%	\$10,842	293%
1/1/2006	\$30,492	\$58,082	\$27,590	53%	\$10,011	276%

Notes to Schedules

Additional information as of the latest actuarial valuation follows:

Valuation date	1/1/2013
Actuarial cost method	Entry Age Normal
Amortization method	Approximate level percent of payroll Closed
Remaining amortization period	17 years for the fresh start base
Asset valuation method	A five-year (20% per year) smoothing method that reflects differences between expected market asset return and actual market return. <i>(changed from a method that used expected asset return on actuarial value of assets)</i>

Actuarial Assumptions

Investment Rate of Return	8.00% per year
Projected Salary Increases	3.75% Ultimate rate plus steps of:

Service	1	2	3	4	5
Grps 1 & 2	4.25%	3.75%	1.25%	1.25%	3.75%
Police	4.25%	9.25%	4.25%	9.25%	-
Fire	5.25%	5.25%	3.25%	-	-

PERAC Information Disclosure

The most recent actuarial valuation of the System was prepared by Stone Consulting, Inc. as of January 1, 2013

The normal cost for employees on that date was:	\$1,026,763	9.2% of payroll
The normal cost for the employer was:	\$408,849	3.7% of payroll

The actuarial liability for active members was:	\$34,216,636
The actuarial liability for retired members was (includes inactive):	\$43,860,456
Total actuarial accrued liability:	\$78,077,092
System assets as of that date:	\$34,140,831
Unfunded actuarial accrued liability:	\$43,936,261

The ratio of system's assets to total actuarial liability was:	44%
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As of that date the total covered employee payroll was:	\$11,186,504
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The principal actuarial assumptions used in the valuation are as follows:

Investment Return:	8.00% per annum
Rate of Salary Increase:	3.75% per annum (ultimate rate)

SCHEDULE OF FUNDING PROGRESS (Dollars in \$1,000's)

Actuarial Valuation Date	Actuarial Value of Assets (a)	Actuarial Accrued Liability (AAL) (b)	Unfunded AAL (UAAL) (b-a)	Funded Ratio (a/b)	Covered Payroll (c)	UAAL as a % of Covered Payroll ((b-a)/c)
1/1/2013	\$34,141	\$78,077	\$43,936	44%	\$11,187	393%
1/1/2011	\$33,178	\$71,822	\$38,644	46%	\$10,954	353%
1/1/2010	\$31,828	\$68,326	\$36,499	47%	\$10,747	340%
1/1/2008	\$33,846	\$65,637	\$31,792	52%	\$10,842	293%
1/1/2006	\$30,492	\$58,082	\$27,590	53%	\$10,011	276%

Actuarial Methods and Assumptions

ACTUARIAL METHODS

1.	Actuarial Cost Method	<p>The Entry Age Normal Actuarial Cost Method has been used in this valuation. Under this method, the normal cost is the amount calculated as the level percentage of compensation necessary to fully fund the prospective benefits from each member's entry age to retirement age.</p> <p>The actuarial accrued liability represents the theoretical accumulation of all prior years' normal costs for the plan members as if the program had always been in effect. The unfunded actuarial accrued liability is the excess of the actuarial accrued liability over plan assets.</p>
2.	Asset Valuation Method	<p>Market value of assets (adjusted by payables and receivables) adjusted to phase in investment gains or losses above or below the expected rate of investment return over a five-year rolling period. The phase-in is 20% for year one, 40% for year two, 60% for year three, 80% for year four and 100% for year five. The actuarial value of assets may be no less than 90%, or more than 110% of the market value of assets plus payables and receivables.</p>
3.	Fiscal Year Adjustment	<p>The actuarial results are adjusted by the valuation interest rate and salary scale to the beginning of Fiscal Year 2014. The unfunded actuarial accrued liability is rolled forward with normal cost and further adjusted by anticipated contributions and interest.</p>

ACTUARIAL ASSUMPTIONS

1.	Investment Return	8.00% per year net of investment expenses. <i>(same as prior valuation)</i>					
1.	Salary Increases	3.75% Ultimate rate plus steps of:					
		Yrs. of Service	1	2	3	4	5
		Grps 1 & 2	4.25%	3.75%	1.25%	1.25%	3.75%
		Police	4.25%	9.25%	4.25%	9.25%	-
		Fire	5.25%	5.25%	3.25%	-	-

3. **Withdrawal Prior to Retirement** The rates shown at the following sample ages illustrate the withdrawal assumption. Withdrawal rates are set to zero if the retirement rate at that age is nonzero.

Rate of Withdrawal

Service	Group 1 and 2	Group 4
0	15%	1.5%
1	12%	1.5%
2	10%	1.5%
3	9%	1.5%
4	8%	1.5%
5	7.6%	1.5%
10	5.4%	1.5%
15	3.3%	0.0%
20	2.0%	0.0%

4. **Disability Prior to Retirement** The rates shown at the following sample ages illustrate the assumption regarding the incidence of disability:

Rate of Disability

Age	Group 1 and 2	Group 4
20	0.01%	0.10%
25	0.02%	0.20%
30	0.03%	0.30%
35	0.06%	0.30%
40	0.10%	0.30%
45	0.15%	1.00%
50	0.19%	1.25%
55	0.24%	1.20%
60	0.28%	0.85%

Disability is assumed to be 45% ordinary and 55% accidental for Group 1 and 2 and 10% ordinary and 90% accidental for Group 4.

Actuarial Methods and Assumptions (Continued)

5. Rates of Retirement

The rates shown at the following ages illustrate the assumption regarding the incidence of retirement, once the member has achieved 10 years of service or 20 years of service for group 1 and 2 prior to age 55:

Rates of Retirement

Age	Pre-4/2/2012 Hires			Post-4/1/2012 Hires		
	Group 1 & 2 Male	Group 1 & 2 Female	Group 4	Group 1 & 2 Male	Group 1 & 2 Female	Group 4
50	1%	1.5%	2%	0%	0%	1.5%
51	1%	1.5%	2%	0%	0%	1.5%
52	1%	2.0%	2%	0%	0%	1.5%
53	1%	2.5%	2%	0%	0%	1.5%
54	2%	2.5%	7.5%	0%	0%	5%
55	2%	5.5%	15%	0%	0%	10%
56	2.5%	6.5%	10%	0%	0%	7%
57	2.5%	6.5%	10%	0%	0%	20%
58	5%	6.5%	10%	0%	0%	10%
59	6.5%	6.5%	15%	0%	0%	15%
60	12%	5%	20%	25%	30%	20%
61	20%	13%	20%	20%	13%	20%
62	30%	15%	25%	30%	15%	25%
63	25%	12.5%	25%	25%	12.5%	25%
64	22%	18%	30%	22%	18%	30%
65	40%	15%	100%	40%	15%	100%
66	25%	20%	N/A	25%	20%	N/A
67	25%	20%	N/A	25%	20%	N/A
68	30%	25%	N/A	30%	25%	N/A
69	30%	20%	N/A	30%	20%	N/A
70	100%	100%	N/A	100%	100%	N/A

6. Mortality

The RP-2000 mortality table (sex-distinct) projected 18 years with scale AA. *(Prior valuation used RP-2000 mortality table projected 11 years with scale AA.)*
During employment the healthy employee mortality table is used.
Post-employment the healthy annuitant mortality table is used.

7. Disabled Life Mortality

The RP-2000 mortality table for healthy annuitants (sex-distinct) projected 18 years with scale AA set-forward by 2 years. Death is assumed to be due to the same cause as the disability 40% of the time. *(Prior valuation used RP-2000 mortality table projected 11 years with scale AA.)*

Actuarial Methods and Assumptions (Continued)

8.	Regular Interest Rate Credited to Annuity Savings Account	2% per year.
9.	Family Composition	Members assumed married with 2 dependent children – one male and one female both age 15; age difference between member and spouse assumed to be 3 years (the male being the older).
10.	Cost-of-Living Increases	A 3% COLA on the first \$13,000 of a member's retirement allowance is assumed to be granted every year. <i>Previously \$12,000.</i>
11.	Administrative Expenses	Estimated budgeted amount of \$173,823 for the Fiscal Year 2014 excluding investment management fees and custodial fee is added to the Normal Cost.
12.	Step Increases	Step increases are assumed to be part of the salary increase assumption.
13.	Credited Service	All service is assumed to be due to employment with the municipality.
14.	3(8)(c)	Net 3(8)(c) payments are added to the contribution amount, they have not been included in the Actuarial Accrued Liability. They are assumed to remain constant.
15.	Contribution Timing	Contributions are assumed to be July 1
16.	Valuation Date	January 1, 2013.

Summary of Principal Provisions

1. Participant Participation is mandatory for all full-time employees whose employment commences before age 65. There are three classes of members in the retirement system:

Group 1: general employees

Group 2: employees in specified hazardous occupations (e.g., electricians)

Group 4: police and firefighters

2. Member Contributions Member contributions vary depending upon date hired as follows:

Date of Hire	Member Contribution Rate
Prior to 1975	5% of Pay
1975 – 1983	7% of Pay
1984 – June 30, 1996	8% of Pay
After June 30, 1996	9% of Pay

Members hired after 1978 contribute an additional 2% of pay over \$30,000.

3. Pay
- a. Pay Gross regular compensation excluding bonuses, overtime, severance pay, unused sick pay, and other similar compensation.
- b. Average Pay The average of pay during the 3 consecutive years that produce the highest average or, if greater, during the last three years (whether or not consecutive) preceding retirement.

4. Credited Service Period during which an employee contributes to the retirement system plus certain periods of military service and "purchased" service.

Summary of Principal Provisions (Continued)

5. Service Retirement

a. Eligibility

1) Completion of 20 years of credited service or attainment of age 55 and completion of 10 years of credited service. If hired prior to 1978 or a member of group 4, attainment of age 55.

2) Hired after April 1, 2012 and (Group 1 – Age 57, Group 2 – Age 52, Group 4 – Age 50) and completion of 10 years of service

b. Retirement Allowance

Determined as the product of the member's benefit percentage, average pay and credited service, where the benefit percentage is shown below (maximum allowance of 80% of average pay):

Benefit Percentage	Group 1	Group 2	Group 4
2.5%	65+	60+	55+
2.4	64	59	54
2.3	63	58	53
2.2	62	57	52
2.1	61	56	51
2.0	60	55	50
1.9	59	N/A	49
1.8	58	N/A	48
1.7	57	N/A	47
1.6	56	N/A	46
1.5	55	N/A	45
Hired after April 1, 2012			
2.5%	67+	62+	57+
2.35	66	61	56
2.20	65	60	55
2.05	64	59	54
1.90	63	58	53
1.75	62	57	52
1.60	61	56	51
1.45	60	55	50

In addition, veterans receive an additional \$15 per year for each year of credited service up to 20 years

Summary of Principal Provisions (Continued)

6. Deferred Vested Retirement (*continued*)

b. Retirement Allowance Determined in the same manner as 5b. with the benefit payable at age 55, unless deferred until later at the member's option.

Member contributions with interest may be withdrawn after separation from service. If contributions are withdrawn, eligibility for retirement benefits is forfeited. Members hired before 1984 receive full interest on contributions that are withdrawn; otherwise, one half the credited interest is provided for members who withdraw after 5 but before 10 years of credited service and no interest is provided for withdrawals before 5 years of credited service.

7. Ordinary Disability Retirement

a. Eligibility Non-job related disability after completion of 10 years of credited service.

b. Retirement Allowance Determined in the same manner as 5b. with the benefit payable immediately. Veterans receive 50% of pay (during final year) plus an annuity based on accumulated member contributions with interest.

8. Accidental Disability Retirement

a. Eligibility Disabled as a result of an accident in the performance of duties. No age or service requirement.

b. Retirement Allowance 72% of pay plus an annuity based on accumulated member contributions with interest. Also, a dependent's allowance per year for each child. Total allowance not to exceed 100% of pay (75% for members hired after 1987).

Summary of Principal Provisions (Continued)

9. Non-Occupational Death

- | | |
|-------------------------|--|
| a. Eligibility | Dies while in active service, but not due to occupational injury. 2 years of service. |
| b. Retirement Allowance | Benefit as if Option C had been elected (see below).
Minimum monthly benefits provided as follows: spouse - \$250, first child - \$120, each additional child - \$90. |

10. Occupational Death

- | | |
|-------------------|---|
| a. Eligibility | Dies as a result of an occupational injury. |
| b. Benefit Amount | Same as 8b. |

11. Cost-of-Living Increases

An increase of up to 3% applied to the first \$13,000 of annual benefit. Funded by the Municipality from Fiscal Year 1999. Percentage increase is voted on each year by the Retirement Board. Cost-of-living increases granted during Fiscal Year 1982 through Fiscal 1998 are reimbursed by the Commonwealth.

12. Optional Forms of Payment

- | | |
|-------------|--|
| a. Option A | Allowance payable monthly for the life of the member. |
| b. Option B | Allowance payable monthly for the life of the member with a guarantee of remaining member contributions with interest. |
| c. Option C | Allowance payable monthly for the life of the member with 66-2/3% continuing to the member's beneficiary upon the member's death. If the beneficiary predeceases the member, the allowance amount "pops up" to the non-reduced amount. |

Glossary of Terms

1. Present Value of Benefits	Represents the dollar value today of all benefits expected to be earned by current members if all actuarial assumptions are exactly realized.
2. Actuarial Cost Method	The procedure that is used to allocate the present value of benefits between the liability that is attributable to past service (Actuarial Accrued Liability) and that attributable to future service.
3. Actuarial Assumptions	Estimates are made as to the occurrence of certain events that determine the level of benefits to be paid and how long they will be provided. The more important actuarial assumptions include the investment return on assets, salary increases and the rates of turnover, disability, retirement and mortality.
4. Actuarial Accrued Liability	The portion of the Present Value of Benefits that is attributable to past service.
5. Normal Cost	The portion of the Present Value of Benefits that is attributable to benefits to be earned in the coming year.
6. Actuarial Assets	Market value of assets (adjusted by payables and receivables) adjusted to phase in investment gains or losses above or below the expected rate of investment return over a five-year rolling period. The phase-in is 20% for year one, 40% for year two, 60% for year three, 80% for year four and 100% for year five. The actuarial value of assets may be no less than 90%, or more than 110% of the market value of assets plus payables and receivables.
7. Unfunded Actuarial Accrued Liability	That portion of the Actuarial Accrued Liability not covered by System Assets.
8. PERAC	Public Employee Retirement Administration Commission, a division of the State government which has regulatory authority over the administration of the retirement system.

Glossary of Terms (Continued)

- | | |
|---------------------|---|
| 9. PRIT | Pension Reserves Investment Trust Fund is the state controlled and administered fund for the investment of assets for members of the retirement system. |
| 10. GASB | Government Accounting Standards Board (issues guidance for disclosure of retirement system liabilities). |
| 11. 3(8)(c) Payment | Payment made by a retirement system to another retirement system. The purpose is to reimburse the portion of a retirement allowance due to service with a previous retirement system. |